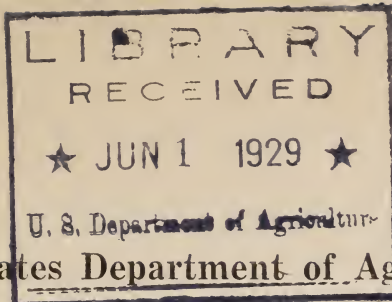


# **Historic, Archive Document**

Do not assume content reflects current scientific  
knowledge, policies, or practices



**United States Department of Agriculture****BUREAU OF PLANT INDUSTRY****SERVICE AND REGULATORY ANNOUNCEMENTS****Enforcement of the Federal Seed Act****DETERMINATION OF LIVE, PURE SEED CONTENT<sup>1</sup>**

The Federal seed act requires as a condition of entry into the United States for all seeds subject to the act a minimum live, pure seed content. Seeds giving abnormal sprouts, which are incapable of producing normal seedlings and therefore of no agricultural use, are often found in varying proportions. The presence of such seeds leads to lack of uniformity in interpreting the results of germination tests. On account of the difficulty of defining normal seedlings when tests are made under artificial laboratory conditions, only seeds producing seedlings capable of continued growth when tested in soil under favorable conditions are to be considered live seeds in the enforcement of the Federal seed act.

This method of determining the live-seed content is in accordance with the rules for seed testing adopted by the Association of Official Seed Analysts of North America at the annual meeting at Ithaca, N. Y., August 17-20, 1926, and issued as United States Department of Agriculture Circular No. 406, from which the following paragraphs are quoted:

**GERMINATION TESTS**

"The reason for testing seeds for germination is to determine their ability to develop into normal plants under favorable conditions. Seed-control stations and seed-testing laboratories in different countries have developed various laboratory methods for testing each particular kind of seed that give satisfactory results under their own conditions. It does not seem practicable, therefore, to make hard and fast rules for germination, but rather it seems best to give the results of this past experience of satisfactory practice as the best present guide for making germination tests.

\* \* \*

**3. LABORATORY GERMINATION—GENERAL CONDITIONS**

"Although the greenhouse soil test has many advantages in testing the ability of seeds to develop into plants, the demands of space and time generally make a more or less arbitrary artificial method of germination necessary for routine work. In making the laboratory tests and in interpreting their results it should always be kept in mind that the ultimate purpose of a germination test is to determine in the sample under test the percentage of seeds capable of developing normal seedlings.

\* \* \*

**5. COUNTING GERMINATED SEEDS**

"In laboratory tests the seedlings should be counted and removed at frequent intervals. This facilitates the work and prevents interference with the moisture supply of the seeds that have not yet germinated.

<sup>1</sup> See first amendment to the Federal seed act (Public 190, 64th Congress). Joint Regulations of the Secretary of the Treasury and the Secretary of Agriculture, Treasury Decision 41724 and S. R. A.—B. P. I. 9.

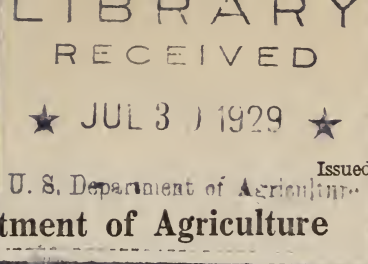
"(a) *Interpretation.*—Variation in the interpretation of the test is probably the most frequent cause of discrepancy in seed-germination results. It is impossible to make a satisfactory definition of a seedling. The presence of a normal sprout and of a root with root hairs is a valuable indication, but the condition and vigor of the seedling, whether it is an early or a late germination, and general experience must also be guides. Since we wish to obtain as a result of the germination test the percentage of seeds capable of developing into normal seedlings, only such seeds should be counted as germinated which may reasonably be expected to continue their development under favorable conditions. It is suggested that we should interpret the laboratory test to correspond with the probable result in soil."

Approved:

WM. A. TAYLOR,  
*Chief of Bureau.*

WASHINGTON, D. C., *May 15, 1929.*





# United States Department of Agriculture

## SERVICE AND REGULATORY ANNOUNCEMENT

### BUREAU OF PLANT INDUSTRY

## ADULTERATION AND MISBRANDING OF SEED OF REDTOP, 1928

During the calendar year 1928 seed of redbtop was procured in the open market, in accordance with the act of Congress making appropriations for the United States Department of Agriculture, of which the following is a part:

Where such samples [seeds of grasses, clover, or alfalfa, and lawn-grass seeds secured in the open market] are found to be adulterated or misbranded, the results of the tests shall be published, together with the names of the persons by whom the seeds were offered for sale.

In carrying out the provisions of this act 501 mail samples and 113 purchased lots of seed in bulk were obtained. These were examined in the seed laboratory of the Bureau of Plant Industry, and publication is here made of the results of the analyses of the samples found to be adulterated or misbranded, together with the names of the persons by whom they were offered for sale. (See Table 1.)

Seed purchased from 24 firms was found to be adulterated or misbranded. In all cases timothy seed was the principal adulterant found.

TABLE 1.—Results of tests of samples of seed obtained in the open market as redbtop seed and found to be adulterated or misbranded

Seed offered for sale or sold as redbtop seed by—		Seed obtained by—	Seeds and inert matter found upon analysis of sample			
Name of dealer	Address		Red-top seed	Timothy seed	Other seed	Dirt and chaff
Ayres, Bryson Seed Co.	1024 McGee Street, Kansas City, Mo.	Purchase (bulk)...	Per ct. 74.95	Per ct. 14.48	Per ct. 0.42	Per ct. 10.15
Do.	do.	Mail (sample)...	73.71	9.82	.75	15.72
Barrett Hardware Co.	113-117 North Ottawa Street, Joliet, Ill.	Purchase (bulk)...	64.09	20.47	3.27	12.17
Do.	do.	Mail (sample)...	62.62	23.66	4.18	9.54
Buchanan Seed Co., R. B.	Memphis, Tenn.	Purchase (bulk)...	63.84	13.50	6.30	16.36
Buck Bros.	28 West Main Street, Middletown, N. Y.	do.	85.59	8.59	.76	5.06
Do.	do.	Mail (sample)...	84.49	9.30	.64	5.57
Coates Seed & Feed Store.	Siloam Springs, Ark.	Purchase (bulk)...	84.57	6.27	.97	8.19
Do.	do.	Mail (sample)...	86.97	5.89	.54	6.60
Davis Seed Co., E. O.	122-124 South Front Street, St. Peter, Minn.	Purchase (bulk)...	78.82	6.98	1.20	13.00
Do.	do.	Mail (sample)...	80.47	5.87	.98	12.63
Dobson-Hicks Co. (Inc.).	108 Second Avenue North, Nashville, Tenn.	Purchase (bulk)...	72.26	18.87	1.24	7.63
Do.	do.	Mail (sample)...	68.38	23.69	1.45	6.48
Fort Smith Seed Co.	322-324 Garrison Avenue, Fort Smith, Ark.	Purchase (bulk)...	76.63	8.91	1.53	12.93
Do.	do.	Mail (sample)...	82.70	7.19	.65	9.46
Gerber & Son, S.	Baltic, Ohio.	Purchase (bulk)...	86.35	11.32	.49	1.84
Do.	do.	Mail (sample)...	86.17	11.88	.32	1.63
Hackney, Kearns & Lackey Co. (Inc.).	215-217 North Broadway, Knoxville, Tenn.	Purchase (bulk)...	82.53	8.38	2.67	6.42
Hamilton Hardware Corp., The.	90-94 Bank Street, Waterbury, Conn.	do.	72.98	19.17	1.67	6.18
Do.	do.	Mail (sample)...	72.60	18.46	1.83	7.11
Harnden Seed Co., The.	505 Walnut Street, Kansas City, Mo.	Purchase (bulk)...	69.40	18.73	1.02	10.85
Do.	do.	Mail (sample)...	82.20	8.40	.42	8.98

TABLE 1.—*Results of tests of samples of seed obtained in the open market as redtop seed and found to be adulterated or misbranded—Continued*

Seed offered for sale or sold as redtop seed by—		Seed obtained by—	Seeds and inert matter found upon analysis of sample			
Name of dealer	Address		Red-top seed	Timothy seed	Other seed	Dirt and chaff
Hayes Seed House...	529-533 North Kansas Avenue, Topeka, Kans.	Purchase (bulk)...	<i>Per ct.</i> 59.39	<i>Per ct.</i> 8.50	<i>Per ct.</i> 3.48	<i>Per ct.</i> 28.63
Do.....	do.....	Mail (sample).....	61.16	11.05	3.40	24.39
Henderson Co. (Inc.), C. W.	Jackson Avenue and Central Street, Knoxville, Tenn.	Purchase (bulk)...	86.44	5.52	1.05	6.99
Do.....	do.....	Mail (sample).....	85.87	5.02	1.02	8.09
Keller & Sons, Geo.	Northeast corner Ninth and Main Streets, Quincy, Ill.	Purchase (bulk)...	46.17	6.01	4.96	42.86
Do.....	do.....	Mail (sample).....	54.85	8.13	7.44	29.58
Lester Feed & Seed Store.	Rome, Ga.....	Purchase (bulk)...	75.13	7.45	4.04	13.38
Lewis Implement & Seed Co. (Inc.).	Louisville, Ky.....	do.....	75.27	15.94	.96	7.83
Do.....	do.....	Mail (sample).....	75.17	16.55	1.00	7.28
National Seed Co. (Inc.).	161 West Main Street, Louisville, Ky.	Purchase (bulk)...	73.60	12.84	.66	12.90
Do.....	do.....	Mail (sample).....	73.93	13.68	.77	11.62
Sample Co., J. S.....	506-508 Market Street, Knoxville, Tenn.	Purchase (bulk)...	75.25	9.34	.26	15.15
Do.....	do.....	Mail (sample).....	77.36	10.76	.28	11.60
Schwill & Co., Otto.	10 and 12 South Front Street, Memphis, Tenn.	Purchase (bulk)...	81.02	8.93	.28	9.77
Southern Seed Co.....	104 East Markham Street, Little Rock, Ark.	do.....	79.67	14.16	.61	5.56
Steckler Seed Co. (Ltd.), J.	512-516 Gravier Street, New Orleans, La.	do.....	82.35	7.64	.64	9.37
Tuckers' Seed House.	Third and Howard Streets, Carthage, Mo.	do.....	67.15	14.57	.69	17.59
Do.....	do.....	Mail (sample).....	66.60	18.22	.76	14.42
Winchester Milling Co.	Winchester, Tenn.....	Purchase (bulk)...	72.67	13.03	2.94	11.36
Do.....	do.....	Mail (sample).....	74.69	12.08	2.66	10.57

The Bureau of Plant Industry of the United States Department of Agriculture will continue to examine and report promptly as to the presence of adulterants and dodder in any sample of seed submitted for that purpose. According to the location of the sender, these samples may be submitted to the seed laboratory at Washington, D. C., or to any of the following laboratories maintained through the cooperation of this department: Cooperative Seed Laboratory, California State Department of Agriculture, Capitol Extension Building, Sacramento, Calif.; Cooperative Seed Laboratory, Oregon Agricultural College, Corvallis, Oreg.; Cooperative Seed Laboratory, Purdue University Agricultural Experiment Station, La Fayette, Ind.; Cooperative Seed Laboratory, Missouri Agricultural Experiment Station, Columbia, Mo.

Approved:

RENICK W. DUNLAP,  
Acting Secretary of Agriculture.

WASHINGTON, D. C., June 18, 1929.